

REMARKS

These remarks are responsive to the Office Action dated July 16, 2002. Claims 1-25 are pending in the present Application. Claims 1-25 are rejected. Claims 1, 15 and 20 have been amended for clarification. Claim 13 has been amended to add the limitation of Claim 14. Claim 14 has been canceled. Claims 1-13 and 15-25 remain pending in the present Application. For the reasons set forth more fully below, Applicant respectfully submits that the remaining claims are allowable. Consequently, reconsideration, allowance and passage to issue are respectfully requested.

Present Invention

The present invention comprises a removable visual indication structure for a printed circuit board. The removable visual indication structure comprises a removable connection portion and a visual indication portion wherein the visual indication portion is non-removably coupled to the removable connection portion wherein the visual indication structure can be removably attached to a printed circuit board.

35 USC §112 Rejections

The Examiner states:

Claims 13 and 26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13, lines 4-5 recite "either at least one removable visual indication structure or an alternate removable structure interchangeably coupled to the at least one pin".

Claim 26, line 1 recite "...wherein the alternative removable structure is a flat ribbon..."

These recitations are vague and unclear with regard to the "alternative removal structure". There are no recitation regarding this limitation.

Applicant asserts that claims 13 and 26 have been amended to address the above referenced informalities. Specifically, claims 13 and 26 have been amended as follows:

13. A printed circuit board system comprising:
a printed circuit board;
at least one pin coupled to the printed circuit board; and
at least one removable visual indication structure coupled to the at least one pin wherein the at least one removable visual indication structure includes a removable connection portion; and
a visual indication portion wherein the visual indication portion is non-removably coupled to the removable connection portion.
26. The system of claim 13 wherein the removable connection portion is a flat ribbon cable connector.

Applicant accordingly asserts that claims 13 and 26 are now clear and definite and the rejection under 35 USC §112 has been overcome..

35 USC §102 Rejections

Claims 1-4, 7-10 and 13-17

For ease of review, independent claims 1, 13 and 20 are reproduced herein below:

1. A removable visual indication structure comprising:
a removable connection portion; and
a visual indication portion wherein the visual indication portion is non-removably coupled to the removable connection portion, wherein the visual indication structure can be removably attached to a printed circuit board.
13. A printed circuit board system comprising:
a printed circuit board;
at least one pin coupled to the printed circuit board; and
at least one removable visual indication structure coupled to the at least one pin wherein the at least one removable visual indication structure includes a removable connection portion; and
a visual indication portion wherein the visual indication portion is non-removably coupled to the removable connection portion.
20. A method for fabricating a removable visual indication structure for a printed circuit

board comprising the steps of:

- (a) providing at least one visual indicator;
- (b) providing a removable connector adapted to be coupled to the printed circuit board; and
- (c) non-removably coupling the at least one visual indicator to the removable connector.

The Examiner states:

Claims 1-4, 7-10, and 13-17 are rejected under 35 USC 102(b) as being anticipated by Yagi (U.S. Pat # 4,667,270).

Regarding claim 1, Yagi discloses a removable visual structure (Figure 1, elements 10, 18) comprising:

A removable connection portion (18); and

A visual indication portion (10) coupled to the removable connection portion, wherein the visual indication structure can be removably attached to a printed circuit board (Figure 1, element 36).

Applicant respectfully traverses with the Examiner's rejection. The present invention comprises a removable visual indication structure for a printed circuit board. The present invention has been amended to recite a removable visual indication structure comprising a removable connection portion and a visual indication portion *wherein the visual indication portion is non-removably* coupled to the removable connection portion and wherein the visual indication structure can be removably attached to a printed circuit board.

Yagi discloses a light emitting diode (LED) holder, wherein the LED holder includes a seat block with lead wire holes widened toward the top surface of the block, and confronting pairs of gripper arms on opposite sides of the seat block and provided with locking projections at the upper ends thereof. The LED holder permits insertion of external lead wires of a light emitting diode in sockets on a circuit board, and is capable of securely holding a light emitting portion of the diode in position. Fixation of a light emitting diode on the holder can be confirmed by a click sound from the gripper arms.

The Examiner asserts that Yagi anticipates the present invention because it teaches a removable visual structure (Figure 1, elements 10, 18) comprising, a removable connection portion (18) and a visual indication portion (10) coupled to the removable connection portion, wherein the visual indication structure can be removably attached to a printed circuit board (see Yagi Figure 1, attached Exhibit A). Applicant disagrees with this assessment.

The present invention of claims 1 and 13 have been amended to recite "...a visual indication portion *wherein the visual indication portion is non-removably* coupled to the removable connection portion..." (Emphasis added). As can be clearly seen in Figure 1 of Yagi, the visual indication portion 10 is **removably** coupled to the holder (removable connection portion) 18. This is evident by the nature of the coupling of the visual indication portion 10 with the gripper arms 52. Essentially, the external lead wires 20 of the visual indication portion 10 are placed in the lead wire holes 50 wherein the fixation of the LED 10 is confirmed by a click sound. Accordingly, by depressing the gripper arms 52 after the visual indication portion 10 has been coupled to the holder 18 the visual indication portion 10 can be easily removed. Hence, the visual indication portion 10 of Yagi is **removably** coupled to the holder.

This is clearly different from the present invention since the visual indication portion of the recited invention is *non-removably* coupled to the removable connection portion. This is supported in the specification of the present Application at page 4, lines 15-21:

Finally, the visual indicator is then coupled to the connector, via step 24. This is preferably accomplished by

soldering the visual indicator to the back of the surface mount connector.

Although the preferred embodiment of the present invention utilizes soldering means to couple to the visual indicator to the removable connector, one of ordinary skill in the art will readily recognize that a variety of coupling means could be utilized to couple the visual indicator to the removable connector....(Emphasis added.)

Clearly, by soldering the back of the removable connection portion (surface mount connector) the visual indication portion of the present invention, is non-removably coupled to the removable connection portion. Accordingly, non-removably coupling a visual indication portion to a removable connection portion, as recited by the present invention, is clearly different from removably coupling an LED portion 10 to a holder 18 as taught by the Examiner's cited prior art (Yagi).

Consequently, in view of the above, claims 1 and 13 are neither taught nor suggested by the cited reference. Accordingly, claims 1 and 13 are allowable over the cited reference.

Since claims 2-4, 7-10 and 15-17 are respectively dependent on claims 1 and 13, the above-articulated arguments related to claims 1 and 13 apply with equal force to claims 2-4, 7-10 and 15-17. Accordingly, claims 2-4, 7-10 and 15-17 are allowable over the cited reference.

35 USC §103

The Examiner states:

Claims 5-6, 11-12, 18-19, and 20-25 are rejected under 35 USC 102(b) as being unpatentable over Yagi (U.S. Pat # 4,667,270).

Yagi does not disclose that the LED is soldered to the surface mount connector, however it involves no invention to case in one piece an

article which has formerly been cast in two pieces and put together. *Howard v. Detroit Stove Works*, 150 U.S. 164 (1893).

Regarding claims 20-25, the method steps are necessitated by a light indicator structure to a printed circuit board as it discloses by Yagi as mentioned above.

Since claims 5-6, 11-12 and 18-19 are respectively dependent on claims 1, 7, and 13, the above-articulated arguments related to claims 1, 7 and 13 apply with equal force to claims 5-6, 11-12 and 18-19. Accordingly, claims 2-4, 7-10 and 15-17 are allowable over the cited reference.

Regarding independent claim 20, Applicant asserts that the above-articulated arguments related to claims 1, 7 and 13 apply with equal force to claim 20. The present invention of claims 20 has been amended to recite "...**non-removably** coupling at least one visual indication portion to the removable connector." (Emphasis added). As can be clearly seen in Figure 1 of Yagi, the visual indication portion 10 is **removably** coupled to the holder (removable connection portion) 18. This is evident by the nature of the coupling of the visual indication portion 10 with the gripper arms 52. Essentially, the external lead wires 20 of the visual indication portion 10 are placed in the lead wire holes 50 wherein the fixation of the LED 10 is confirmed by a click sound. By incorporating the gripper arms 52, it is clear that the visual indication portion 10 is designed to be removable.

Since the visual indication portion 10 of Yagi is designed to be removable, Applicant asserts that the Yagi reference does not teach or suggest non-removably coupling at least one visual indication portion to the removable connector as recited in claim 20 of the present invention. Consequently, in view of the above, claims 1 and 13

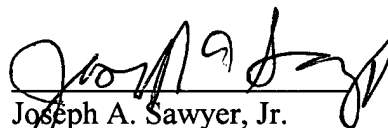
are neither taught nor suggested by the cited reference. Accordingly, claims 1 and 13 are allowable over the cited reference.

Since claims 21-25 are dependent on claim 20, the above-articulated arguments related to claim 20 apply with equal force to claims 21-25. Accordingly, claims 21-25 are allowable over the cited reference.

Attached hereto and captioned "Version with Markings to Show Changes Made" is a marked-up version of the changes made to the claims by the current amendment.

Accordingly, Applicant's attorney believes that this application is in condition for allowance. Should any unresolved issues remain, Examiner is invited to call Applicant's attorney at the telephone number indicated below.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS

Please amend the claims as follows:

1. (Amended) A removable visual indication structure comprising:
a removable connection portion; and
a visual indication portion wherein the visual indication portion is non-removably
coupled to the removable connection portion, wherein the visual indication structure can
be removably attached to a printed circuit board.

13. (Amended) A printed circuit board system comprising:
a printed circuit board;
at least one pin coupled to the printed circuit board; and
at least one removable visual indication structure [or an alternate removable
structure interchangeably coupled to the at least one pin.] wherein the at least one
removable visual indication structure includes a removable connection portion; and
a visual indication portion wherein the visual indication portion is non-removably
coupled to the removable connection portion.

Claim 14 has been cancelled..

15. (Amended) The system of claim [14]13 wherein the at least one visual indicator
comprises an LED.

20. (Amended) A method for fabricating a removable visual indication structure for a printed circuit board comprising the steps of:

- (a) providing at least one visual indicator;
- (b) providing a removable connector adapted to be coupled to the printed circuit board; and
- (c) non-removably coupling the at least one visual indicator to the removable connector.

26. (Amended) The system of claim 13 wherein the [alternative removable structure] removable connection portion is a flat ribbon cable connector.